



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

Meeting Minutes for May 10, 2001

WRC members attending:

Peter Webber	Commissioner, DEM
Mark P. Smith	Executive Director
Marilyn Contreas	Designee, DHCD
Richard Thibedeau	Designee, DEM
Lealdon Langley	Designee, DEP
Mark Tisa	Designee, DFWELE
Joe Pelczarski	Designee, CZM (non-voting)
Richard Butler	Public Member
David Rich	Public Member
Frank Veale	Public Member
Bob Zimmerman	Public Member

Others in attendance:

Robert Bell	Earth Tech
Daniel Garson	Woodard & Curran
Steve Garabedian	USGS
Mike Gildesgame	DEM OWR
David DeLorenzo	DEP
Linda Marler	DEM OWR
Vicki Gartland	DEM OWR
Lorraine Downey	MWRA
William Euerle	Foxborough Water & Sewer Commissioners
Lee Azinheira	Mansfield DPW
Michele Drury	DEM OWR
Jackie Murphy	EOEA
Susan Murphy	DEM
Heather Hampf	DEM
Leo Potter	Foxborough Water & Sewer Commissioners
Joan Sozio	Foxborough Water & Sewer Commissioners

Agenda Item 1: Executive Director's Report

- Yesterday, the MWRA Board of Directors appointed Fred Lasky as MWRA's new Executive Director. Mr. Lasky was head of the Department of Revenue. He has 20 years in state government and is very experienced in managing large public agencies. He is very well regarded throughout the state.

- Covers of USGS reports were in this month's package. The State has many cooperative programs with USGS for stream gaging, ground water monitoring and special studies. Entire reports are available on request. Smith distributed the quarterly update on the USGS/Commonwealth programs. These are valuable programs which support our other more visible programs.
- The Town of Reading is considering joining the MWRA to supplement its water supply. This will be an Interbasin Transfer. One of Reading's proposed options to supplement its water supply is to implement an aggressive water conservation program to reduce its residential gpcd to 50 through low flow toilet and washing machine rebates.
- Bluestone has secured funding and is about to sign a contract with Brockton. Drury and Smith will be meeting with Bluestone to discuss the requirements for other communities that may become customers.
- The New Bedford Aquarium project, which was discussed at a previous meeting, has filed an ENF. That project is moving forward.
- Buildout analyses for all 351 communities in the Commonwealth are almost completed. Smith is working with the community preservation group to look at statewide issues concerning water needs and the ability to meet these needs.
- Drury introduced intern Susan Murphy who will be inventorying existing "grandfathered" interbasin transfers of wastewater. Gartland introduced intern Heather Hampf who will be assisting with stressed basin work and analyzing peak flows to see if there is an increasing trend.

Marler gave the hydrologic conditions report

- It hasn't rained for a few weeks. We are going from high to low water conditions rapidly.
- April's precipitation, statewide, was 44% of normal. The Southeast Region got the most rainfall in April (60% of normal). The Northeast Region had the lowest (30% of normal). We are still above 100% of normal for water year, for the most part. The Connecticut River and Central Regions are at 86% and 88% of normal for the water year. We are concerned about these conditions as we go into the summer. The Northeast Region still has a high percent cumulative of normal, but we will be monitoring what happens over the next weeks and months.
- Groundwater levels are good. The below normal area on Cape Cod is getting smaller, but we are still concerned about it.
- Recent forecasts don't predict much rain. We need to be concerned about this trend.
- Stream flow is 59% of normal, but we are not too concerned yet. We will be monitoring trends. The Merrimack and Connecticut Rivers are close to their median flows, but this is probably due to regulation.
- Water supply reservoirs are 72-100% full. We are cautiously concerned due to the recent lack of rain, but most reservoirs are still in pretty good shape because of their storage capacity.
- There have been many small fires throughout state recently. Fire danger is still moderate. However, low relative humidity, wind and temperature are problems. Fire wardens are saying that we need a rainstorm in excess of one inch to keep fire danger down.
- Most of the indices predict normal conditions. But the Standard Precipitation Index for April showed moderately dry conditions for the west and coastal areas of Massachusetts and severely dry conditions for the central area.

- We are still a bit above the cumulative percent of normal for precipitation, but if we don't get rain, that could change.

Agenda Item 2: Vote on the Minutes of April 13, 2000:

We have been requested to pull minutes because some corrections were not made. They will be edited and returned next month for a vote.

Agenda Item 4: Lawn Watering Policy Update (taken out of turn):

J. Murphy stated that DFA recently released Guidance on Turf Management for Municipal Athletic Fields. This document contains some good water use recommendations regarding irrigation and the need to water deeply and infrequently. The WRC can reference some of these in our policy and guidance, but there are some gaps. Murphy will be in touch with DFA to make sure that there is better coordination.

The Policy was discussed in March. The WRC made recommendations to target property owners and managers, managers of playing fields, and private wells. This has been included. We heard concerns regarding the regulatory implications of this policy and guidance. Murphy met with DEP to discuss their interpretation of the policy and guidance. DEP stated that these are Best Management Practices and they are using some already in their permitting. In certain cases, they could use this policy for permit requirements where system capacity is limited. Murphy will continue to work with DEP to develop a memo which outlines these cases and release it with the policy for public comment.

Webber stated that private homeowners may be more concerned about shrubs and vegetables than lawns during drought. Are we talking primarily about lawns? Murphy replied that the focus is on turf. The policy also advocates selection of native species rather than turf. Tisa asked if there was a list of native species that could be used as alternatives to turf and suggested that such a list be incorporated. Smith suggested that these be put in by reference rather than putting in a list.

Pelczarski suggested that the policy and guidance be an addendum to the existing Water Conservation Standards. Smith stated that the policy will be brought back next month for approval to put it out for public comment.

The Guidance has been circulated to watershed team leaders, New England Water Works Association and Massachusetts Water Works Association. MWWA asked for an extension, so we are waiting to hear from them. Overall, the comments received so far have been positive. We will incorporate the comments and send it back to WRC for review and then send it out for wider public comments. However, staff would like to get it out before the June meeting, due to current weather conditions. Rich stated that MWWA would not have comments that would substantially change anything so we should move forward.

Agenda Item 3: Mansfield's Compliance with the Conditions of the Morrison Well IBT approval (taken out of turn):

Smith stated that the WRC approved Mansfield's Morrison Well IBT request last June. There were a number of conditions that had to be met before the well could be installed.

Drury went over the conditions:

- The Town was required to provide documentation of completion of the leak detection survey, completion of metering the few remaining unmetered residential accounts, completion of the meter downsizing program and the installation of low flow devices in public buildings. This has been provided. Staff recommends that these conditions have been met.
- The Town was required to provide documentation of the water audit. This was done, but staff recommends that in future water audits, the effectiveness of existing water conservation measures should be evaluated. Staff recommends that this condition has been met.
- The Town was required to provide two plans:
 - One to identify industrial and commercial users of significant size and make suggestions to these users concerning water conservation. Staff recommends that this condition has been met.
 - The other to reduce residential water use. The town has submitted some information but Staff have asked for more. We hope to have a recommendation by June.
- The Town was required to develop a monitoring plan to be approved by the WRC, Natural Heritage and DEP. Natural Heritage would like to review the results of the plan, but states that it is adequate for the monitoring to proceed. Staff have asked for revisions to the plan, which we've only just received. We hope to have a recommendation by June. The town has requested that they be allowed to substitute Observation Well C for the threshold point 9-97. The purpose for this threshold point is to protect the aquifer level next to the brook. The reason for the request is that using this point will result in less disturbance to the wetland from the installation and maintenance of automatic monitoring equipment. Staff and DEP concur that this will provide same amount of protection, so we are recommending that this be done.
- The Town was required to submit an outline and timeline for the Local Water Resources Management Plan. We are recommending certain modifications to provide more detail in the outline. We think time line is a bit ambitious. By June we should be able to make a recommendation.

Staff will bring this back for a vote in June, which will allow Mansfield to install the well (if all outstanding issues have been resolved).

Smith stated that the reason Mansfield's approval was conditioned is because the application was received during the two-year Performance Standard transition period. As of this August, this transition period will be over. All of the Criteria of the Act and regulations will have to be complied with in advance. Webber stated that Senator Sprague had organized a meeting in March to make sure that we were all "on track". The Town is moving in right direction. Staff's work is excellent, as always.

Agenda Item 5: Third Party Standing under the Interbasin Transfer Act:

Drury stated that third parties don't have standing *per se* under the Act. However, it is the policy of the Commission to take information from anyone about Interbasin Transfer issues. Staff are proposing to revise the regulations to reflect that the Commission will entertain information from any source, including members of the public. Staff will also formalize the informal policy to respond to all inquiries. The memo in the package has the proposed regulation change and

policy statement. Kerry Mackin (Ipswich River Watershed Association) had concerns that there is no appeal process under the Act. There is not, because the Act does not set one up. There is no adjudicatory process. However, all of the Commission's actions under the Act are subject to Chapter 30a. Anyone has right to appeal to Superior Court. Staff are proposing to update the IBT guide book. This will include the policy, as approved by the Commission, that will consider information received from all parties. Staff will put in a section about the appeal process under the Act. There was also a concern about possible failure to act by the WRC. This is also subject to injunctive relief through Superior Court. This will also be discussed in the updated guide book. The proposed regulation change and policy statement will be brought back in June for a vote.

Agenda Item 6: Staff Recommendation Foxborough Witch Pond Wells Interbasin Transfer Application:

Drury acknowledged representatives from Foxborough. During the Mansfield review, staff noted that Foxborough was proposing two wells in same area. Both towns were asked to look at impacts of all wells, combined, to get sense of the cumulative impacts.

Foxborough's application was reviewed by DEM, DEP, DFW, DMF, and NHESP. Written comments from the agencies are in Appendix A of the Staff Recommendation. The two required public hearings were held on March 29th and April 5th. Written public comments are also included in the Staff Recommendation. Four were in favor of the proposal; one expressed concern about watershed protection, water conservation and consistency in permitting between Mansfield and Foxborough.

Foxborough has land area in three basins, the Ten Mile River basin, the Taunton River basin and the Neponset River subbasin of the Boston Harbor basin. There is only a small portion of the Ten Mile basin in town. Foxborough is in the headwaters of the three basins. The town has six existing water supply sources, four in the Taunton basin and two in the Neponset.

Staff is recommending approval with certain conditions. The issues noted during the review and public comment period include:

- **MEPA compliance:** during the public comment period it was noted that Hessel's Hairstreak had not been identified in Foxborough's last Notice of Project Change. Staff have directed the Town to contact MEPA and NHESP to see if further review is needed.
- **Viable inbasin sources:** Four potential sources had been identified in Foxborough's application. Staff have been in contact with DEP which is concerned that these sources would not be permissible because of water quality problems.
- **Water conservation:** Table 1 of the Staff Recommendation describes Foxborough's water conservation program. The town has an extensive program but it doesn't meet all of the 1992 Water Conservation Standards or all of the IBT Performance Standards. Staff is proposing conditions, which will be discussed later.
- **Local Water Resources Management Plan:** Foxborough has been very proactive in planning and protecting its water supply. They probably have most, if not all, elements of a plan in place. They are in the process of developing a DEP Comprehensive Water Management Plan. If this plan meets the guidelines for a local water resources management plan, as

outlined in the Performance Standards, Foxborough could substitute this for the Local Water Resources Management Plan. Otherwise, they could synthesize existing reports and plans.

Marler discussed the **hydrologic impacts**. The hydrogeology of the area is similar to that reviewed during the Mansfield IBT process. The Foxborough proposal underwent the same rigorous review. Staff looked at the potential impact of the wells on Witch Pond, local users, the surrounding Atlantic White Cedar Swamp and groundwater levels. Staff developed compliance thresholds for this proposal that are similar to those required for Mansfield.

The hydrologic review was concerned with the Witch Pond/Bungay Brook subbasin. This subbasin has a very small drainage area (¼ square mile). It is anomalous to have a pond and brook in this small of an area, this far up in the watershed. The wells are situated in the sand and gravel aquifer. The area is a bit like a bowl. There is a wetland (the Atlantic White Cedar Swamp) on top of a peat layer over bedrock and a bedrock dam at south end of the area, which constricts flow out of this valley to a certain degree. Flow is from north to south. Lake Mirimichi appears to contribute groundwater to the area. As in the Mansfield review, the unusual hydrology does not allow for the estimation of streamflow in Bungay Brook through conventional methods. There is a mild gradient through valley (elevations range from 156 to 152 ft). Peat thickens across valley from west to east.

Two wells are proposed. Well 3-87 is situated 100 feet within the wetland area and 200 feet west of Witch Pond. Well 1-70 sits on the edge of the Atlantic White Cedar Swamp and about 300 feet west of Witch Pond. Each well is about 50 feet deep, screened in the aquifer through the peat. Each is approved for 500 gpm by DEP (0.72 mgd). DEP has limited each well to 0.48 mgd (pumpage at 500 gpm for 16 hrs /day). Because our reviews and approvals are based on capacity, the analysis evaluated impacts using the capacity of the wells (0.72 mgd each).

The pumping tests showed that although there was an aquifer connection across the valley, the peat layer is serving as a hydrologic separator between the aquifer and surface water. Water levels were also measured in Witch Pond. This provides confidence that there is a degree of separation between surface water and the aquifer. An observation well was placed between these wells and the Mansfield wells during one of the pumping tests. This did not indicate that there would be interference between the two well sites. The pumping tests also indicated that 10-20% of recharge to the wells is derived from Witch Pond.

Foxborough used a modified version of the Mansfield model and got similar results. The model predicted aquifer drawdown only. It did not attempt to predict impacts to wetlands, peat or Witch Pond.

There are a number of **streamflow-dependent sensitive receptors** in the area: the Atlantic White Cedar Swamp, the hummock and hollow topography, the Hessel's Hairstreak butterfly and the spotted turtle. Atlantic White Cedar Swamps are dependant on seasonal inundation and near-surface water tables. Witch Pond supports a warm water fishery and is also habitat for the spotted turtle.

Foxborough didn't quantify the impacts to Bungay Brook, but made some qualitative observations. Bungay Brook flow is dependant on Witch Pond levels and precipitation. The hydraulics of the area are weak. There is only flow in Bungay Brook when the water level is above 153.9 feet. Due to the mild gradient, a level of 154.2 feet at Witch Pond is critical for flow in Bungay Brook. The brook stops flowing naturally because it is a weak system, however, we don't want the wells to impact what flow there is in the Brook. By limiting impacts to Witch Pond levels, we can prevent the extension of the duration of naturally occurring low flow events in Bungay Brook.

Staff are also concerned about **Witch Pond**, itself. The pond is 8.8 acres and shallow: 3-4 ft deep in most areas. The north area is somewhat of a pool with a maximum depth of 7 feet. Witch Pond is habitat for warmwater fish and for the spotted turtle. NHESP has stated that the turtle needs to be underwater to eat and also uses the pond to stay cool on warm summer days and over night. DFW recommends maintaining both pond water levels and streamflow to Bungay Brook during spawning season. During the summer, water level decline could reduce habitat and in the winter, water level decline could cause the pond to freeze to the bottom, killing any fish overwintering there. Surface water and groundwater interaction in this area is not well understood. It is unknown how Witch Pond is sustained, however, it is surmised that it is groundwater fed, although the source and means are not known. Staff suspect that the area where peat is 2-5 ft thick beneath pond could be where groundwater is feeding the pond. It is fortunate that the wells are far away from this area. There is a concern that the wells could intercept groundwater that would otherwise reach the pond. It is likely that there is recharge from the aquifer to the pond and at other times there is recharge from the pond to the aquifer. It appears that a mild amount of "leakage" occurs.

Underflow from Lake Mirimichi may be enough to overcome any impact the wells may have, but there is not enough data yet. The model showed potential for the wells to induce flow of 1.87 mgd across basin boundary (from Lake Mirimichi). If this is true, it could help mitigate the concerns.

Impacts to the wetlands were evaluated. Well 1-70 is at edge of the swamp. Well 3-87 is situated 100 feet within the wetland. Foxborough also has an Atlantic White Cedar Swamp wetland restoration area 150 feet south of well 1-70, extending to the Mansfield town line. We are interested in protecting this restoration area from the impacts of pumping. There is good empirical data from past records and from the Mansfield site. Staff expect materials will behave similarly. Staff will recommend the town to regulate the impacts 10 feet out from wells. There is concern that aquifer drawdown could cause drainage of the wetlands. Staff asked the proponent to characterize drawdown immediately surrounding the wells, but because of the peat it had to be looked at it differently. At Well 1-70, there is the potential for drawdown in the aquifer to just below the bottom of peat. This could potentially result in the peat draining to the aquifer over a long period of time, if the aquifer remains at this level. Well 3-87 exhibits more drawdown for same pumping rate. For the most part, impacts appear to be acceptable under average conditions, but under worst case conditions, they are a bit higher than we'd like, but this approval can be conditioned similar to the Mansfield approval.

Impacts to other users were also evaluated. These included the Mansfield wells, which are 1200 feet to the south, the North Attleborough fish hatchery wells and Greenwood Lake. Under full pumping with no recharge conditions, the maximum impacts to the Mansfield wells could be 2-3 feet. Under normal conditions, impacts would be minimal. We can limit impacts by requiring thresholds under more severe conditions. Greenwood Lake is managed by the fish hatchery. Given the hydrology of the well site and the bedrock dam at Route 95 upstream of Greenwood Lake, Foxborough's wells will not have an impact. The fish hatchery wells are in a different subbasin. Therefore, there should be no direct impact.

Based on this data, staff felt it appropriate to recommend approval with conditions. The potential for impacts could be mitigated using thresholds and monitoring similar to that required of Mansfield. Compliance points were set in the aquifer at the nearest edge of Atlantic White Cedar Swamp for each of wells and at Witch Pond near well 3-87. Compliance points were also set in the peat layer in swamp nearest each well and in the restoration area. Staff are also recommending a threshold level for Witch Pond to prevent pumping from impacting flow in Bungay Brook. Thresholds were established consistent with the needs of the Atlantic White Cedar Swamp. They are consistent with simulated conditions and with the thresholds Mansfield has been given.

Mansfield's site is at a lower elevation than Foxborough's, so thresholds are adjusted accordingly, but are based on same rationale: one foot below the wetland in the peat and six feet in the aquifer. Witch Pond's threshold level is 154.2 because of concerns about flow to Bungay Brook. Staff thinks that Foxborough should be able to meet these thresholds under most conditions. They can be revised, if warranted, after 5 years of pumping data has been collected.

Drury briefly went through the **conditions of the Staff Recommendation:**

- As stated earlier, Foxborough must contact the MEPA office, explain the project and the reviews that have been undertaken to date and request an opinion on whether or not further MEPA review is required. Documentation of this opinion must be provided to the WRC.
- The town currently conducts surveys every year, but has not completed a town-wide survey since 1991. Therefore, Foxborough must conduct a town-wide leak detection survey. The report for this survey, together with documentation of the leaks found and repaired, must be provided to the WRC. This must occur before the wells are installed.
- Foxborough must provide documentation that the Ahern School has been retrofit with water saving devices before the wells are installed.
- Foxborough must retrofit the High School, Taylor School and Burrell School with water saving devices, as required by their 1991 Water Management Act Permit. Documentation that this has been completed must be furnished to the WRC before the wells can installed.
- The town must conduct a water audit of its water supply system, including public facilities, and furnish the water audit report to the WRC. This must occur before the wells are installed.
- Foxborough's residential gpcd is 75. Therefore, the town must implement a comprehensive residential conservation program with a goal of achieving a residential gpcd of 65. A plan for this program shall be provided to the WRC before the wells are installed.
- Before the wells are installed, Foxborough must provide a plan for WRC review and approval, to reduce and maintain its unaccounted-for water to 10% or lower.

- There are other ongoing conditions for the Water Conservation Criterion listed in the Staff Recommendation.
- Drury did not outline the conditions for Criterion 5 (monitoring) as Marler had just discussed these. Marler added that there was a requirement for vegetative monitoring, as well.
- Foxborough must submit a timeline for completion and the scope of the Local Water Resources Management Plan for WRC review and comment before the wells can be installed. The timeline should include the dates that the draft and final reports will be submitted to the WRC for review, comment, and approval.
- Foxborough must commit to abiding by any restrictions that may be placed on the use of the Witch Pond Wells as a result of monitoring.

As with Mansfield, staff recommend the WRC obtain a commitment, in writing, to meet these conditions.

The Public Hearing on Staff Recommendation is scheduled for May 24th at 7 PM at the Foxborough Town Hall.

Meeting adjourned.

Minutes approved 1/9/03